

What is claimed is:

1. A catalyst for purifying exhaust gases, comprising:
a zeolite ion exchanged with cerium and deposited with
5 cerium oxide as well together with at least one member selected
from the group consisting of platinum, palladium and mixtures
thereof.
- 10 2. A catalyst according to claim 1, wherein the zeolite
has been subjected to ion exchange with at least one member
selected from the group consisting of platinum, palladium
and mixtures thereof.
- 15 3. A catalyst according to claim 2, wherein an amount
of the member is in the range of 0.05-5% by weight, based
on the weight of the zeolite.
- 20 4. A catalyst according to claim 1, wherein at least 60%
by weight of the zeolite is a ZSM5 type zeolite and a molar
ratio of $\text{SiO}_2/\text{Al}_2\text{O}_3$ thereof is in the range of 1 - 100/1.
- 25 5. A catalyst according to claim 1, wherein a weight
ratio of the cerium to the zeolite (reduced as oxide) is in
the range of 0.1-3% by weight, based on the weight of the
zeolite.
- 30 6. A catalyst according to claim 1, wherein the zeolite
is at least one member selected from the group consisting
of ZSM5 zeolite, mordenite, beta, faujasite (X, Y type),
offretite, ferrierite, erionite, chabazite, A type, and
mixtures thereof.

7. A catalyst according to claim 1 further comprising at least one additive selected from the group consisting of indium, tin, phosphorus, zirconium, boron, and mixtures thereof.

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8. A catalyst according to claim 7, wherein an amount of the additive is in the range of 0.01-1% by weight, based on the weight of the zeolite.

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9. A catalyst according to claim 1, wherein the catalyst is deposited on an integral structure carrier.

10. A catalyst according to claim 9, wherein the integral structure carrier is a honeycomb carrier.

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11. A catalyst according to claim 9, wherein the catalyst contains 100 - 400 g of zeolite, 0.5 - 10 g of cerium oxide, and 0.05 - 10 g of a noble metal, per liter of the catalyst.

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12. A catalyst according to claim 1, wherein the catalyst is obtainable from carrying a cerium ion on a zeolite by ion exchange, depositing cerium oxide on the carried zeolite, and depositing on the resultant zeolite at least one member selected from the group consisting of platinum, palladium and mixtures thereof.

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13. A process for purifying an exhaust gas discharged from a diesel engine which comprises contacting the gas with the catalyst set forth in claim 1.

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